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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/993,051 | 11/27/2001 | Sami Mikkonen | 915.409 | 7455 |
| 7590 | 12/16/2003 | | EXAMINER | |
| Ware, Fressola, Van Der Sluys & Adolphson LLP Bradford Green, Building Five 755 Main Street, PO Box 224 Monroe, CT 06468 | | | WIMER, MICHAEL C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2821 | |
| DATE MAILED: 12/16/2003 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/993,051 | MIKKONEN ET AL. |
| | Examiner | Art Unit |
| | Michael C. Wimer | 2821 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 September 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 15-28 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 15-28 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

| | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15,16,18,19,22,23,24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fessenden (998567).

Regarding Claims 15,16,23,24 Fessenden shows in Fig. 1, an antenna 2 including a continuous, non-planar, radiator surface (made up of the wires 2 and connected to the supports 1 and 4-9), the surface being defined by variations in the depth of the radiator surface, and indentations defined on either side of the center post 1.

Regarding Claims 18 and 22, the Earth is the planar ground plane.

Regarding Claims 19 and 26, air is the dielectric provided.

3. Claims 15-28, rejected under 35 U.S.C. 102(b) as being anticipated by Rebiez et al. (4888597).

Regarding Claims 15-28, Rebiez et al. show in Figures 2 and 3, an antenna 20 including a continuous, non-planar, radiator surface, for example, 47,51,52,58 defined by variations in the depth of the radiator surface and comprising indentations (Fig. 3), a planar ground plane 40 opposite the non-planar surface, and defined by pyramids (Fig. 3) in the radiator surface, and a planar dielectric

surface 45, providing dielectric loading (i.e., increasing average electrical height), all arranged as claimed.

4. The patents to Carter (2573401) and Thursby et al. (5155493 in Fig. 5), are cited as of interest showing continuous, non-planar radiating surfaces.

Response to Arguments

5. Applicant's arguments with respect to claims 15-28 have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (703) 305-3555. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (703) 308-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



Michael C. Wimer
Primary Examiner
Art Unit 2821

MCW

11/24/2003